

What is claimed is:

- Claim 1. A water gas shift catalyst comprising platinum, rhenium and lanthanum on a high surface area rutile titanium dioxide support.
- 5 Claim 2. The catalyst of Claim 1 wherein said rutile TiO_2 has a surface area greater than about $10 \text{ m}^2/\text{g}$.
- Claim 3. The catalyst of Claim 2 wherein said rutile TiO_2 has a surface area greater than about $30 \text{ m}^2/\text{g}$.
- Claim 4. The catalyst of Claim 1 wherein said lanthanum is present in the form of La_2O_3 and comprises from about 0.1 wt % up to about 20 wt% of the catalyst.
- 10 Claim 5. The catalyst of Claim 1 wherein said platinum plus said rhenium comprise about 20 wt% of said catalyst.
- Claim 6. The catalyst of Claim 1 wherein said platinum is present at a higher concentration than said rhenium.
- Claim 7. The catalyst of Claim 3 wherein said platinum to rhenium ratio is from about 1 Pt : 0.9 Re to about 5 Pt : 1 Re.
- 15 Claim 8. The catalyst of Claim 7 wherein said platinum:rhenium ratio is about 3:1.
- Claim 9. The catalyst of Claim 1 further comprising an additive selected from the group consisting of cerium, molybdenum, zirconium, tungsten and a combination thereof.
- 20 Claim 10. The catalyst of Claim 9 wherein said additive is present at a concentration of up to about 20 wt% in the catalyst.

- Claim 11. A water gas shift catalyst comprising platinum, rhenium and lanthanum on a rutile titanium dioxide support wherein said support has a surface area greater than about 30 m²/g.
- 5 Claim 12. The catalyst of Claim 11 wherein said lanthanum is present in the form of La₂O₃ and comprises from about 0.1 wt % up to about 20 wt% of the catalyst.
- Claim 13. The catalyst of Claim 11 wherein said platinum plus said rhenium comprise about 20 wt% of said catalyst.
- 10 Claim 14. The catalyst of Claim 11 wherein said platinum is present at a higher concentration than said rhenium and said platinum to rhenium ratio is from about 1 Pt : 0.9 Re to about 5 Pt : 1 Re.
- Claim 15. The catalyst of Claim 11 further comprising an additive selected from the group consisting of cerium, molybdenum, zirconium, tungsten and a combination thereof, and wherein said additive is present at a concentration of up to about 20 wt% in the catalyst.
- 15 Claim 16. A water gas shift catalyst comprising platinum, rhenium and lanthanum on a high surface area rutile titanium dioxide support wherein said platinum is present at a higher concentration than said rhenium, and said platinum plus said rhenium comprise about 20 wt% of said catalyst.
- 20 Claim 17. The catalyst of Claim 16 wherein said rutile TiO₂ has a surface area greater than about 10 m²/g.
- Claim 18. The catalyst of Claim 16 wherein said lanthanum is present in the form of La₂O₃ and comprises from about 0.1 wt % up to about 20 wt% of the catalyst.

Claim 19. The catalyst of Claim 16 wherein said platinum to rhenium ratio is from about 1 Pt : 0.9 Re to about 5 Pt : 1 Re.

Claim 20. The catalyst of Claim 16 further comprising an additive selected from the group consisting of cerium, molybdenum, zirconium, tungsten and a combination thereof and wherein said additive is present at a concentration of up to about ____ wt% in the catalyst.

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